

ICD-9-CM Coordination and Maintenance Committee Meeting

November 2nd, 2001

Peter Morris, MD, FACP, FCCP

Wake Forest University School of Medicine

Overview

- Definitions of Septicemia, Sepsis, & Severe Sepsis
- Disease Epidemiology
- Current Diagnostic codes
- Proposed Changes
- Discussion

Definitions

- Septicemia
Presence of microorganisms or their toxins
in the blood
- Sepsis
Systemic inflammatory response to infection.
The clinical manifestation of sepsis is the
Systemic Inflammatory Response Syndrome

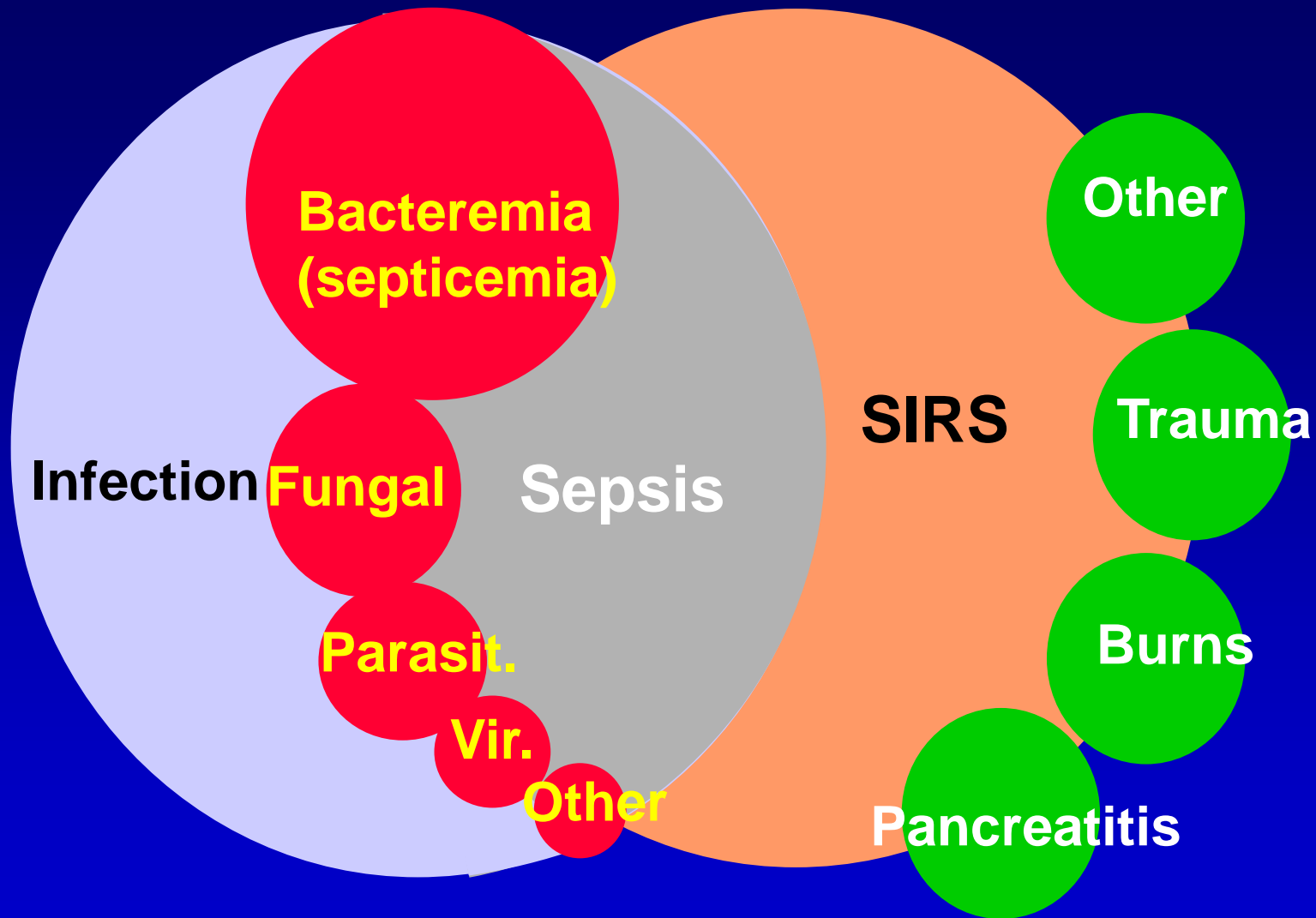
Definitions Continued

SIRS the systemic inflammatory response to a variety of severe clinical insults

Two or more of the following:

- Temperature $>38^{\circ}\text{C}$ or $<36^{\circ}\text{C}$
- Heart Rate > 90 beats per minute
- Respiratory Rate > 20 breaths per minute or $\text{PaCO}_2 < 32$ mm Hg
- White Blood Cell Count $> 12,000/\text{cu mm}$, $<4,000/\text{cu mm}$ or $>10\%$ immature (band) forms

SIRS / Sepsis



Sepsis: Defining a Disease Continuum

Infection

Sepsis

Severe Sepsis

SIRS

- Temperature $\geq 38^{\circ}\text{C}$ or $\leq 36^{\circ}\text{C}$
- HR ≥ 90 beats/min
- Respirations ≥ 20 /min
- WBC count $\geq 12,000/\text{mm}^3$ or $\leq 4,000/\text{mm}^3$ or $>10\%$ immature neutrophils

- Sepsis with ≥ 1 sign of organ failure
 - Cardiovascular (refractory hypotension)
 - Renal
 - Respiratory
 - Hepatic
 - Hematologic
 - CNS
 - Unexplained metabolic acidosis

Shock

Mechanical Ventilation

Acute Dialysis

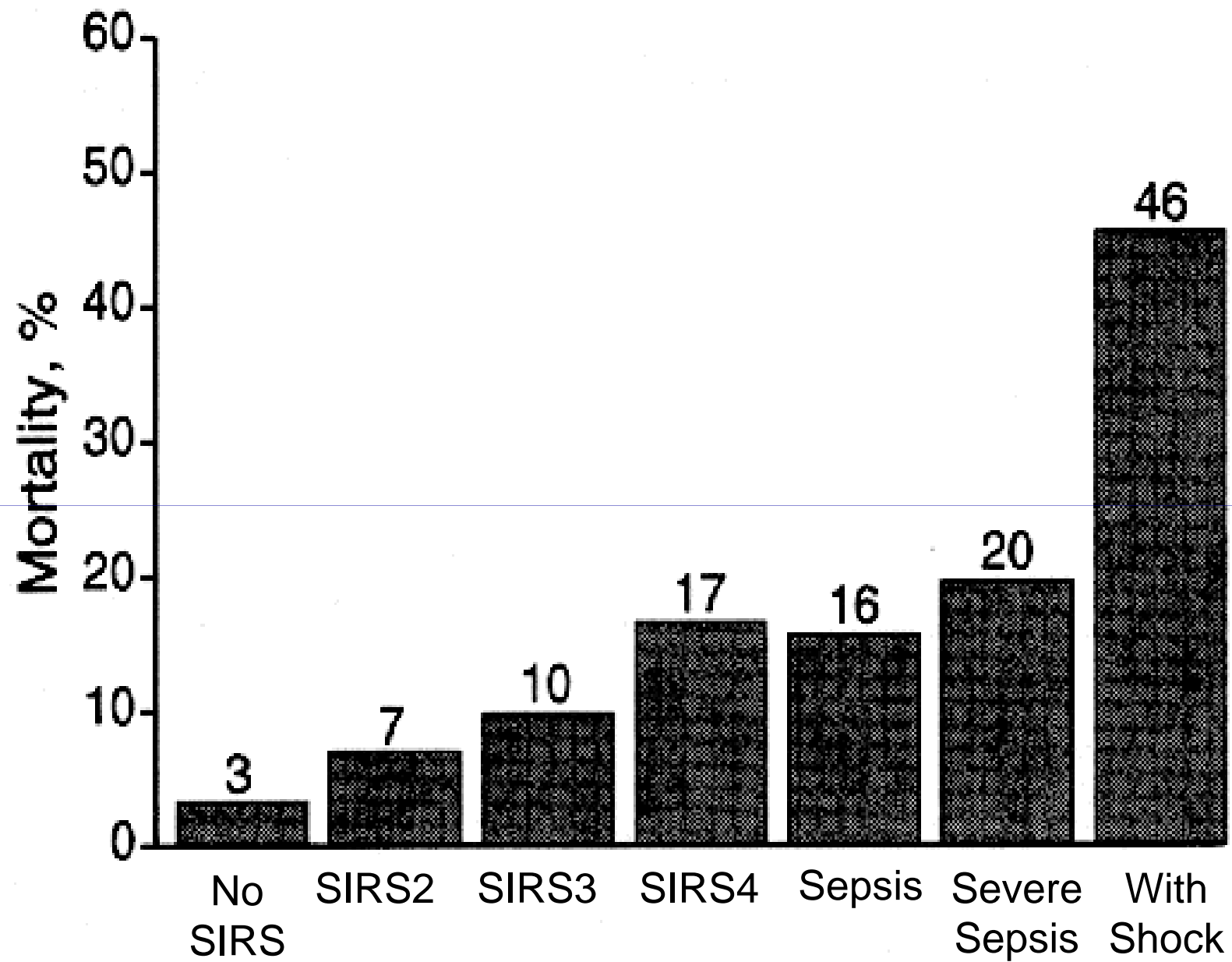
Definitions Continued

- Severe Sepsis: Sepsis associated with organ dysfunction (failure)

Organ dysfunction (failure) may be cardiovascular, renal, respiratory, hepatic, hematological, central nervous system or unexplained metabolic acidosis.

Risk Assessment Based on “Sepsis” Definition Subsets

- 3709 patients followed
- 2527 met SIRS
- 649 (26%) developed SEPSIS
- 577 (22%) developed SEVERE SEPSIS



Severe Sepsis Incidence

- 751,000 cases occur in the US annually

Median age:

63 (teaching hospitals)

72 (non-teaching hospitals)

(Crit Care Med, July '01, Vol. 29, 1303-10)

- If Severe Sepsis Develops –
1 out of every 2-3 Patients Die
(Mortality Rate 30% to 50%)

Differences between Severe Sepsis and Septicemia

Disease Description	Septicemia	Severe Sepsis
Presence of pathogenic Infection, known or suspected	Known or suspected blood borne infection	Known or suspected infection of body tissues, blood or organs
SIRS 1.Temp >38C or <36C 2. H R > 90 beats/min 3. RR >20 breaths/min 4. White blood cell count > 12,000	Not required	Requires two or more SIRS criteria
Acute organ failure	Not required	Required

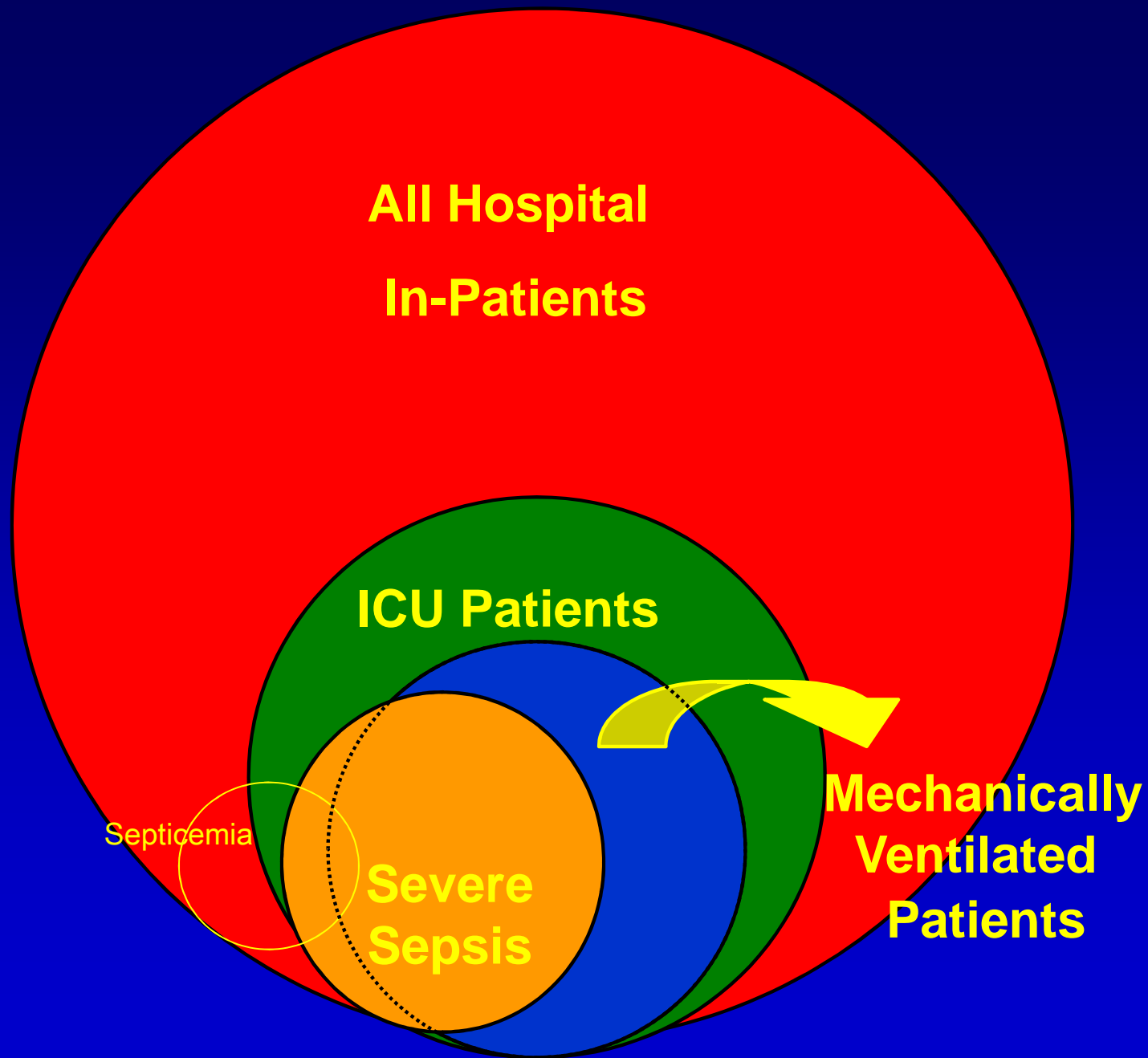
Existing Codes:

Confusion exists for categorizing Severe Sepsis patients

- Severe sepsis coded under 38.9 is inappropriate
- Only 30% of cases with severe sepsis had (038) code listed.
- Incidence of severe sepsis underestimated

Current Coding

- Septicemia NOS, and Sepsis NOS coded to 038.9
- Does not include entire pathogenic microorganisms or their toxins in the blood.



Suggested Coding

- New Code **995**
Certain adverse events not elsewhere classified
- New Subcategory **995.9 SIRS**
- New Code **995.91 SIRS w/o organ failure**
- New Code **995.92 SIRS with organ failure**

Add Severe Sepsis

Add Use additional code to specify organ failure